

MATERIAL SAFETY DATA SHEET

HILL BROTHERS CHEMICAL COMPANY
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CAS No. 7664-41-7	SECTION I	UN No. 1005
CHEMICAL NAME: Ammonia		
CHEMICAL FAMILY: Inorganic Bases		
SYNONYMS:	MOLECULAR WEIGHT:	
TRADE NAME: Anhydrous Ammonia	FORMULA: NH_3	

SECTION II - HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TVL (Units)
Ammonia				100	25ppm

SECTION III - PHYSICAL DATA			
BOILING POINT (°F)	-28	SPECIFIC GRAVITY ($\text{H}_2\text{O}=1$) @ -33°F	0.6819
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR=1)	Lighter	EVAPORATION RATE (Ether =1)	Faster
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR Colorless liquid or gas			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used) Auto ignition 1204°F		FLAMMABLE LIMITS	LeI UeI
EXTINGUISHING MEDIA Should fire occur, use fine water spray or water fog to extinguish.			
SPECIAL FIRE FIGHTING PROCEDURES Water spray removes NH_3 from atmosphere thus fuel for fire is removed from air.			
DOT Flammability Classification: Non-flammable Gas			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

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SECTION V - HEALTH HAZARD DATA

Threshold Limit Value	25 ppm (ammonia vapor) or 18 mg/M ³
Effects of overexposure:	Irritation of eyes, respiratory tract, lung inflammation Lung damage.
Emergency & First Aid Procedures:	INGESTION--DO NOT induce vomiting, seek immediate advice and/or attention. INHALATION-- Remove to fresh air, apply artificial respiration, get medical attention. SKIN CONTACT-- Flush with large quantities of water & seek medical attention if irritation from contact persists.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Heat, sparks, open flame & fire
INCOMPATIBILITY <i>(Materials to avoid)</i> Strong oxidizing agents			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Flush spilled material into suitable retaining areas or container with large quantities of water.
HIGHWAY OR RAILWAY SPILLS: Call Chemtrec (800) 424-9300
WASTE DISPOSAL METHOD
DISPOSAL MUST CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)	Use self-contained breathing apparatus when vapor concentrations are above the TLV.	
VENTILATION	LOCAL EXHAUST	SPECIAL
keep NH ₃ below 25 ppm	If required	
	MECHANICAL (General)	OTHER
	As required to maintain below TLV	
PROTECTIVE GLOVES	EYE PROTECTION	
Use impermeable gloves	Safety glasses, chemical goggles or face shield.	
OTHER PROTECTIVE EQUIPMENT	Impermeable apron	

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep product containers cool and away from sources of ignition.
OTHER PRECAUTIONS
Avoid inhaling vapors and skin contact.

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.